

WOOD IDENTIFICATION FOR PRESERVATION PROFESSIONALS

A HANDS-ON WORKSHOP ON IDENTIFYING UNKNOWN WOOD SPECIES

JUNE 23 - JUNE 25, 2015

NATCHITOCHES, LA

COURSE SYLLABUS

DAY 1

Wood identification for architectural conservators: Relevance, prospects and limitations

- Regional and temporal availability and use of wood species in North America
- Dominant wood species in different architectural applications in North America
- Wood species and a historic significance.
- Matching wood species in architectural restoration.
- The question of provenance, dating and historic interpretation of architectural wood
- Altered wood: coatings, stained wood, charcoal, wood decay, pressure treated, etc.
- Is it wood? (Bamboo, wood-based composites...)
- Crossing fields with art conservation

General Introduction to Wood:

- Tree Names (scientific, common, commercial, vernacular and confusing (SPF, Hem-Fir) (L¹)
- Tree anatomy and general tree/wood species classification (softwoods vs hardwoods) (L, D, E, H)
- Gross-anatomical features (L, D, E, H)
 - Structural planes (XRT)
 - Pith, sapwood/heartwood, bark
 - Annual growth - tree rings, earlywood/latewood
 - Wood rays and resin canals
 - Texture and grain
 - Gross nonstructural features: color, odor, taste,
 - Weight, specific gravity and hardness

Sampling and Sample Handling of Architectural Wood (L, D, E, H):

- Sample collection procedures, protocols, and sample handling
- Sample description and background information important for identification

Tools and Techniques for Macroscopic Investigation (L, D)

- Surface Preparation
- Low magnification: Hand lenses and magnifiers

¹ L – lecture, D – demo, E – exercise, H - handout

SOFTWOODS & HARDWOODS (L, D,)

- Gross-anatomical differences

DEMO / EXERCISE

- Sample and surface prep / understanding XRT planes
- Use of low magnification tools
- Observation of gross-features, color, odor, weight, hardness
- Differentiating between hardwoods and softwoods

LUNCH

Tools and Techniques for Microscopic Investigation (L, D, E, H)

- Using a light microscope (permanent slides)
- Understanding different magnifications (permanent slides)
- Wood sectioning
- Preparation of temporary slides

SOFTWOODS (L, D, E, H)

- Macroscopic features (with hands on using wood samples [3 wood species])
- Microscopic features (with hands on using permanent slides [3 wood species])

ID Checklists and Dichotomous keys, Apps, Resources and References (L, D)

DEMO / EXERCISE

- Known wood species (1 or 2) – Individual Practice (using all tools and Dichotomous keys)
- Unknown wood species (3?) – group practice (3/4, using wood samples, permanent slides and all ID resources)

Sampling, Sample Preparation and Identification Techniques for Atypical Wood Samples (L, D)

DAY 2

HARDWOODS (L, D, E, H)

- Macroscopic features (with hands-on using wood samples)
- Microscopic features (with hands-on using permanent slides [3 wood species])
- Ring porosity classification

DEMO / EXERCISE

- Identifying macroscopic features (solid wood samples and low magnification)
 - Ring porosity
 - Ray flacks
 - Figure

RING-POROUS HARDWOODS (L, D, E, H)

- Macroscopic/microscopic features

DEMO / EXERCISE

- Known wood species (3 or 4) – individual practice (using all tools and dichotomous keys)
- Unknown wood species (3?) – group practice (3/4, using wood samples, permanent slides and all ID resources)

LUNCH

SEMI RING-POROUS HARDWOODS (L, D, E, H)

- Macroscopic/microscopic features

DEMO / EXERCISE

- Known wood species (3 or 4) – individual practice (using all tools and dichotomous keys)
- Unknown wood species (3?) – group exercise (3/4, using wood samples, permanent slides and all ID resources)

Other Techniques for Wood Identification (color tests, fluorescence)

DIFFUSE POROUS HARDWOODS (L, D, E, H)

- Macroscopic/microscopic features

DEMO / EXERCISE

- Known wood species (3 or 4) – individual practice (using all tools and dichotomous keys)
- Unknown wood species (3?) – group exercise (3/4, using wood samples, permanent slides and all ID resources)

DAY 3

Review, Questions and Troubleshooting - Discussion

EXERCISE - Wood Identification

- Group or individual work (46 North American Wood species, Exotic?)

Permanent slide preparation – Intro

EXERCISE - Wood Identification

- Group or individual work (46 North American Wood species, Exotic?)
- ID of unknown samples brought by attendees